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EXAMINER	
NGUYEN, LINH THI	

ART UNIT	PAPER NUMBER
2627	

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/520,774	MARUYAMA ET AL.	
	Examiner	Art Unit	
	Linh T. Nguyen	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 February 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 14, line 27 the word "outside" is unclear of where the signal is from.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements

of this title.

4. Claims 26-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 26-29 are drawn to a "program" *per se* as recited in the preamble and as such is non-statutory subject matter. See MPEP § 2106.IV.B.1.a. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 9-23 and 25 are rejected under 35 U.S.C. 102(b) as being unpatentable by Furukawa et al (US Patent Number 6172946).

In regards to claims 1 and 22, Furukawa et al discloses an optical disc apparatus and method for reading out information recorded on an optical disc by irradiating an optical beam on the optical disc (Fig. 1), comprising: a rotation unit operable to rotate the optical disc; a moving unit operable to move a spot where the optical beam is irradiated on the optical disc in a radius direction of the optical disc (Fig. 1, element 10); a linear velocity detection unit (Fig. 1, element 12) operable to detect a linear velocity of the spot; a rotation control unit (Fig. 1, element 3) operable to control the rotation unit so that the linear velocity detected by the linear velocity detection unit remains substantially constant on an arbitrary radius location on the optical disc, when information recorded on the optical disc is read out (Column 6, lines 18-24); and a moving time control unit operable to control at least one of the rotation unit and the moving unit so as to prevent the linear velocity detected by the linear velocity detection unit from decreasing to a permissible linear velocity or below, when the moving unit moves the spot (Column 6, lines 34-39).

In regards to claims 2 and 23, Furukawa discloses the optical disc apparatus and method according to claim 1, wherein, when moving the spot along the radius direction of the optical disc, the moving time control unit makes a location profile indicating a relation between a radius location and a moving time corresponding to the movement of the spot and controls the moving unit so that the spot is moved along the location profile (Column7, lines 1-9), and the moving time control unit (Fig. 1 element 19; seeking control unit) revises the location profile so as to prevent the linear velocity from decreasing (the velocity is at a predetermined rate, therefore, prevent from decreasing) and controls the moving unit so that the spot is moved along a revised location profile as the linear velocity detected by the linear velocity detection unit nears to the permissible linear velocity (Column 7, lines 10-23).

In regards to claims 3 and 12, Furukawa et al discloses the optical disc apparatus according to claims 2 and 11, wherein the rotation control unit makes the rotation unit increase rotation velocity of the optical disc when the moving unit moves the spot from an outer radius to an inner radius of the optical disc (Column 6, lines 34-36), and the moving time control unit revises the location profile so that a moving velocity of the spot is decreased by the moving unit when the linear velocity detected by the linear velocity detection unit nears to the permissible linear velocity during the movement (Column 8, lines 59-64).

In regards to claims 4 and 13, Furukawa et al discloses the optical disc

apparatus according to claims 2 and 11, wherein the rotation control unit makes the rotation unit decrease the rotation velocity of the optical disc when the moving unit moves the spot from an inner radius to an outer radius of the optical disc (Fig. 2, Step 201-204), and the moving time control unit revises the location profile so that a moving velocity of the spot is increased by the moving unit when the linear velocity detected by the linear velocity detection unit nears to the permissible linear velocity during the movement (Column 7, lines 53-61).

In regards to claim 9, Furukawa discloses the optical disc apparatus according to claim 2, wherein the linear velocity detection unit detects the linear velocity based on a rotation velocity of the optical disc and the radius location of a spot on the optical disc (Column 6, lines 25-36).

In regards to claim 10, Furukawa discloses the optical disc apparatus according to claim 9, wherein the linear velocity detection unit further detects the linear velocity based on moving velocity of the spot moved by the moving unit to the radius direction (Column 5, lines 42-49).

In regards to claim 11, Furukawa discloses the optical disc apparatus according to claim 1, wherein the moving time control unit changes a moving velocity of the spot by the moving unit so as to prevent the linear velocity from decreasing when the linear velocity detected by the linear velocity detection unit nears to the permissible linear

velocity (Column 6, lines 27-34; It is inherent that it prevents the velocity to decrease near the permissible velocity because Furukawa points out that the velocity is maintain at a predetermined value.).

In regards to claim 14, Furukawa discloses the optical disc apparatus according to claim 1, wherein the moving unit changes a moving velocity of the spot along the radius direction of the optical disc according to a drive signal obtained from an outside (Column 7, lines 6-9), and the moving time control unit changes the drive signal by applying an offset signal on the drive signal so as to prevent the linear velocity from decreasing when the linear velocity detected by the linear velocity detection unit nears to the permissible linear velocity (Column 7, lines 30-38; whether velocity is fast or slow it will check the rotation control until it maintains at a predetermined rate).

In regards to claim 15, Furukawa et al discloses the optical disc apparatus according to claim 14, wherein the rotation control unit makes the rotation unit increase a rotation velocity of the optical disc when the moving unit moves the spot from an outer radius to an inner radius of the optical disc (Column 7, lines 30-33), and the moving time control unit applies an offset signal which makes it possible to decrease moving velocity of the spot by the moving unit when the linear velocity detected by the linear velocity detection unit nears to the permissible linear velocity during the movement (Column 7, lines 34-38).

In regards to claim 16, Furukawa et al discloses the optical disc apparatus according to claim 14, wherein the rotation control unit makes the rotation unit decrease a rotation velocity of the optical disc when the moving unit moves the spot from an inner radius to an outer radius of the optical disc (Column 7, lines 24-25), and the moving time control unit applies an offset signal which makes it possible to increase the moving velocity of the spot by the moving unit when the linear velocity detected by the linear velocity detection unit nears to the permissible linear velocity during the movement (Column 7, lines 25-27 and lines 53-61).

In regards to claims 17 and 25, Furukawa discloses the optical disc apparatus and method according to claim 1, wherein the moving time control unit (Fig. 1, element 19) adjusts a rotation velocity of the optical disc by the rotation unit (Fig. 1, element 3).

In regards to claim 18, Furukawa discloses the optical disc apparatus according to claim 17, wherein the rotation unit obtains a drive signal outputted by the rotation control unit (Column 5, lines 29-33) and changes the rotation velocity of the optical disc according to the drive signal (Column 7, lines 19-23; when the track is jumped, it is inherent that the signal from the rotation sense a change of position to therefore, change the rotation velocity according to the position of the disk directed from the inner or periphery part), and the moving time control unit amplifies the drive signal so as to prevent the linear velocity from decreasing when the linear velocity detected by the linear velocity detection unit nears to the permissible linear velocity (Column 7, lines 34-

38).

In regards to claim 19, Furukawa et al discloses the optical disc apparatus according to claim 17, wherein the rotation unit obtains a drive signal outputted by the rotation control unit and changes the rotation velocity of the optical disc according to the drive signal (Column 5, lines 29-33 and Column 7, lines 19-23), and the moving time control unit applies an offset signal on the drive signal and changes the drive signal so as to prevent the linear velocity from decreasing when the linear velocity detected by the linear velocity detection unit nears to the permissible linear velocity (Column 7, lines 34-38).

In regards to claim 20, Furukawa et al discloses the optical disc apparatus according to claim 17, wherein the moving time control unit makes the rotation unit transit the rotation velocity of the optical disc so as to make the rotation velocity of the optical disc faster than the rotation velocity (Column 7, lines 53-56) corresponding to a target radius location at the time when the spot reaches to the target radius location of the spot when the moving unit moves the spot to the target radius location along the radius direction of the optical disc (column 7, lines 56-64).

In regards to claim 21, Furukawa discloses an optical disc apparatus for reading out information recorded on an optical disc by irradiating an optical beam on the optical disc, comprising: a focus adjustment unit (Fig. 1, element 9; objective lens) operable to

adjust a focus of the optical beam (Fig. 1, element 8) so that the focus is formed on the optical disc (Fig. 1, element 1); a rotation unit (Fig. 1, elements 2) operable to rotate the optical disc; a moving unit (Fig. 1 element 11) operable to move a spot where the optical beam is irradiated on the optical disc to a radius direction of the optical disc (Fig. 1, element 11 move the optical head 6 to move the optical beam 8); a linear velocity detection unit (Fig. 1 element 4) operable to detect a linear velocity of the spot; a rotation control unit (Fig. 1, element 3) operable to control the rotation unit so that the linear velocity detected by the linear velocity detection unit remains substantially constant on an arbitrary radius location on the optical disc when information recorded on the optical disc is read out (Column 6, lines 25-34); and a focus adjustment stop unit operable to stop a focus adjustment made by the focus adjustment unit in the case where the linear velocity detected by the linear velocity detection unit decreases to a predetermined linear velocity or below, when the moving unit moves the spot (Column 9, lines 25-33).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 5-8 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa et al in view of Nomura (US Patent Number 6298024). For description of Furukawa see the rejection, supra.

In regards to claims 5 and 24, Furukawa et al does not but Nomura discloses an optical disc apparatus and method, further comprising: a type distinction unit (Fig. 1, element 11) operable to distinguish a type of the optical disc to be an irradiation target of the optical beam (Fig. 1); and wherein the moving time control unit revises the permissible linear velocity according to the type of the optical disc determined by the type distinction unit (Column 10, lines 31-40).

In regards to claim 6, Furukawa et al does not but Nomura discloses the optical disc apparatus, wherein the moving unit makes the location profile according to the type of the optical disc determined by the type distinction unit (Column 10 lines 48-57 and Column 11, lines 1-5).

In regards to claim 7, Furukawa et al does not but Nomura discloses the optical disc apparatus, further comprising: a focus error (envelope upper and lower peak) output unit operable to output a focus error signal indicating a distance between a focus of the optical beam and the optical disc (Column 6, lines 51-62); and wherein the type distinction unit distinguishes the type of the optical disc based on the focus error signal outputted by the focus error output unit (Column 6, lines 65-67).

In regards to claim 8, Furukawa et al does not but Nomura discloses the optical disc apparatus, wherein the type distinction unit identifies the optical beam output necessary for reading out information from the optical disc and determines the type of the optical disc based on a distinction result (Column 7, lines 1-6). At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine Furukawa et al optical disc apparatus to have a type distinction unit (identifying section) as Nomura suggested. The motivation for doing so would have been to identify the types of disc to properly proceed to the corresponding operation (Column 11, lines 1-5).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh T. Nguyen whose telephone number is 571-272-5513. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN
April 5, 2006

ANDREA WELLINGTON
SUPERVISORY PATENT EXAMINER